

**I claim:**

1. A linear light source having an indented reflecting plane at least comprising:  
a light source component comprising an unclosed positioning plane, at least  
a reflecting plane and at least an installation plane, at least a red LED, at  
5 least a red LED and at least a blue LED being provided on said installation  
plane; and  
a light guide bar being a polygonal cylinder having an arc-shaped plane, said  
light guide bar comprising at least an arc-shaped emission plane, at least an  
indented reflecting plane and a plurality of reflecting layers, at least a tail  
10 end of said cylinder being used as an incident plane for light of said LEDs.
2. The linear light source having an indented reflecting plane as claimed in  
claim 1, wherein said positioning plane of said light source component is  
connected with said incident plane of said polygonal cylinder.
3. The linear light source having an indented reflecting plane as claimed in  
15 claim 1, wherein at least a red LED is located between said blue LED and  
said green LED.
4. The linear light source having an indented reflecting plane as claimed in  
claim 1, wherein said green LED, said red LED and said blue LED is placed  
within a circle with a diameter  $1.12 \pm 0.1$  mm.
- 20 5. The linear light source having an indented reflecting plane as claimed in  
claim 1, wherein the indentation angle of said indented reflecting plane lets  
light be uniformly reflected from the emission area of said indented  
reflecting plane onto said emission plane.
6. The linear light source having an indented reflecting plane as claimed in  
25 claim 1, wherein the angle of elevation of indentations of said indented

reflecting plane is between 0.03~0.15 degree.

7. The linear light source having an indented reflecting plane as claimed in claim 1, wherein the angle of elevation of indentations of said indented reflecting plane can be distributed in two sections, the first being between  
5 0.03~0.09 degree, and the second being between 0.09~0.15 degree.

8. The linear light source having an indented reflecting plane as claimed in claim 7, wherein the indentation height and the length of the reflecting incline of the first section are calculated by the following formula:

$$X1=(L1-N1)\tan \theta 1 \quad (1)$$

10  $Y1=X1/\sin \phi 1 \quad (2)$

wherein L1 is the distance to the distal end of the first section from the intersection point of the focus of LEDs extended leftwards and the horizontal axis (between 114~135),  $\theta 1$  is between 0.03~0.09 degree, N1 is the length of the first section (between 1~111), X1 is the indentation height  
15 of the first section; Y1 is the length of the reflecting incline of the first section, and  $\phi 1$  is the angle of the reflecting emission plane (30~40 degrees).

9. The linear light source having an indented reflecting plane as claimed in claim 7, wherein the indentation height and the length of the reflecting  
20 incline of the second section are calculated by the following formula:

$$X2=(L2-N2)\tan \theta 2 \quad (3)$$

$$Y2=X2/\sin \phi 2 \quad (4)$$

wherein L2 is the distance to the distal end of the second section from the intersection point of the focus of LEDs extended leftwards and the  
25 horizontal axis (between 127~170),  $\theta 2$  is between 0.09~0.15 degree, N2 is the length of the second section (between 1~111), X2 is the indentation

height of the second section,  $Y_2$  is the length of the reflecting incline of the second section, and  $\theta_2$  is the angle of the reflecting emission plane (30~40 degrees).

- 5        10. The linear light source having an indented reflecting plane as claimed in claim 1, wherein the angle of elevation of indentations of said indented reflecting plane can be distributed in many sections according to the length of said reflecting plane.
- 10       11. The linear light source having an indented reflecting plane as claimed in claim 1, wherein the opposed end of said incident plane in said polygonal cylinder having an arc-shaped plane is a tail-end plane, which can reflect arriving light back into said cylinder.
12. The linear light source having an indented reflecting plane as claimed in claim 1, wherein the radius of said arc-shaped emission plane of said light guide bar is  $0.73 \pm 0.1$  mm.

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